

Gastroesophageal Reflux in Infants

National Digestive Diseases Information Clearinghouse



National
Institute of
Diabetes and
Digestive
and Kidney
Diseases

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Gastroesophageal reflux (GER) occurs when stomach contents come back up into the esophagus (the tube that connects the mouth to the stomach) during or after a meal. A ring of muscle at the bottom of the esophagus opens and closes to allow food to enter the stomach. This ring of muscle is called the lower esophageal sphincter (LES). This sphincter opens to release gas (burping) after meals in normal infants, children, and adults. When the sphincter opens in infants, the stomach contents often go up the esophagus and out the mouth (spitting up or vomiting). GER can also occur when babies cough, cry, or strain. Most infants with GER are happy and healthy even though they spit up or vomit.

Symptoms

GER occurs often in normal infants. More than half of all babies experience reflux in the first 3 months of life. An infant with GER may experience

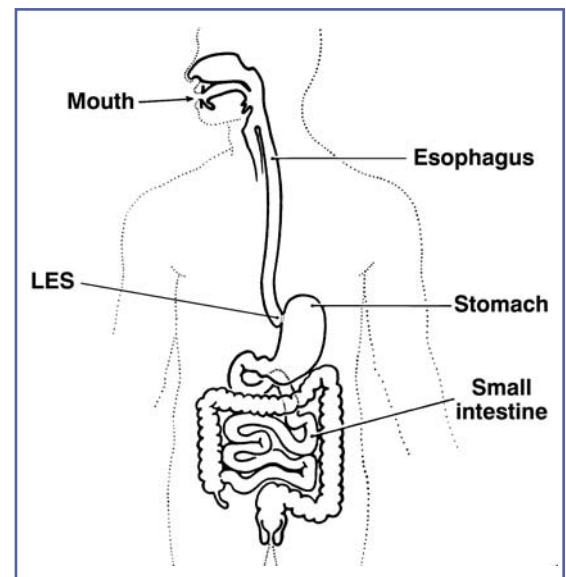
- spitting
- vomiting
- coughing
- irritability
- poor feeding
- blood in the stools

Only a small number of infants have severe symptoms due to GER. Most infants stop spitting up between the ages of 12 to 18 months.

In a small number of babies, GER may result in symptoms that are of concern. These include problems such as

- poor growth due to an inability to hold down enough food
- irritability or refusing to feed due to pain
- blood loss from acid burning the esophagus
- breathing problems

These problems can be caused by disorders other than GER. Your health care provider needs to determine if GER is causing your child's symptom(s).



Digestive system noting the mouth, esophagus, lower esophageal sphincter (LES), stomach, and small intestine.



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Diagnosis

An infant who spits or vomits may have GER. The doctor or nurse will talk with you about your child's symptoms and will examine your child. If the infant is healthy, happy, and growing well, no tests or treatment may be needed. Tests may be ordered to help determine whether your child's symptoms are related to GER. Sometimes, treatment is started without tests.

Treatment

The treatment of reflux depends on the infant's symptoms and age. Some babies may not need treatment, because GER often resolves by itself. Healthy, happy babies may only need their feedings thickened with cereal and to be kept upright after they are fed. Overfeeding can aggravate reflux, so your health care provider

may suggest different ways of handling feedings. For example, smaller quantities with more frequent feeding can help decrease the chances of regurgitating. If a food allergy is suspected, you may be asked to change the baby's formula, or to modify your diet if you are breastfeeding, for 1 to 2 weeks. If a child is not growing well, feedings with higher calorie content or tube feeding may be recommended.

Other treatments include the following:

- When a child is uncomfortable, has difficulty sleeping or eating, or does not grow, the doctor or nurse may suggest a medication. Different types of medicine can be used to treat reflux by decreasing the acid secreted by the stomach. One class of medications, called H2-blockers, includes cimetidine (Tagamet), ranitidine (Zantac), famotidine (Pepcid), and nizatidine (Axid). Another type of medication is the proton-pump inhibitors, such as esomeprazole (Nexium), omeprazole (Prilosec), lansoprazole (Prevacid), rabeprazole (Aciphex), and pantoprazole (Protonix).*
- Very rarely infants have severe GER that prevents them from growing or causes breathing problems. In some of these infants, surgery may be the best option.

Your child's doctor or nurse will discuss GER with you and suggest treatment if needed. The potential complications of the medications will be explained. Most infants don't need medications and will outgrow reflux by 1 or 2 years of age.

* The authors of this fact sheet do not specifically endorse the use of drugs for children that have not been tested in children ("off label" use). Such a determination can only be made under the recommendation of the treating health care provider.

Speak with your child's health care provider if any of the following occur:

- vomiting large amounts or persistent projectile (forceful) vomiting, particularly in infants under 2 months of age
- vomiting fluid that is green or yellow in color or looks like coffee grounds or blood
- difficulty breathing after vomiting or spitting up
- excessive irritability related to feeding, or refusing food, which seems to cause weight loss or poor weight gain
- difficult or painful swallowing

Specific Instructions for Infants With GER

- If the baby is bottle fed, add up to one tablespoon of rice cereal to 2 ounces of infant milk (including expressed breast milk). If the mixture is too thick for your infant to take easily, you can change the nipple size or cross cut the nipple.
- Burp your baby after 1 or 2 ounces of formula are taken. For breastfed infants, burp after feeding on each side.
- Do not overfeed. Talk to your child's doctor or nurse about the amounts of formula or breast milk that your baby is taking.
- When possible, hold your infant upright in your arms for 30 minutes after feeding.
- Infants with GER should usually sleep on their backs, as is suggested for all infants. Rarely, a physician may suggest other sleep positions.

Points to Remember

- GER occurs when stomach contents back up into the esophagus.
- GER is common in infants but most children grow out of it.
- In infants, GER may cause spitting up, vomiting, coughing, poor feeding, or blood in the stools.
- Treatment depends on the infant's symptoms and age, and may include changes in eating and sleeping habits. Medication may also be an option, or surgery in severe cases.

Hope through Research

The National Institute of Diabetes and Digestive and Kidney Diseases, through its Division of Digestive Diseases and Nutrition, supports basic and clinical research into gastrointestinal diseases. Researchers are studying the risk factors for developing GER and what causes the LES to open, with the aim of improving future treatment for GER.

For More Information

North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition

Phone: 1-888-344-8888

Internet: www.NASPGHAN.org

www.CDHNF.org

www.KidsAcidReflux.org

www.TeensAcidReflux.org

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